

Figure 14

ELECTROMAGNETIC WAVE SHIELDING RATE

TEST OF MG NET (summary)

Test working day: December 10, 1997

Measurement person: America Pennsylvania state-run college
Electron sound material & apparatus engineering research center
Prof. Vijay K. Varadan
(A Doctor of Engineering: a specialist of electrical machinery, machine,
and natural science)

The measurement facilities: HVS Technologies, Inc.
(An electron sound engineering research center belonging
electromagnetic wave absorption shielding material and test
equipment specialized agencies)

Use electromagnetic wave shielding material: MG net electromagnetic wave screening material

Measurement instrument: HVS Free Space Microwave Measurement System

Instrumentation: MG net electromagnetic wave absorption factor and also permeation
attenuation rate
Frequency 0.045 GHz~1.4 GHz
Frequency 7.75 GHz~13.0 GHz

By using the method: HVS Free Space Microwave Measurement System electromagnetic wave
absorption factor and permeation attenuation rate of MG net a
measurement

Test as a result of: Frequency 0.045 GHz~1.4 GHz at the time of
Around 1% of absorption factor
Blocking rate 97%~99% or more
Frequency 7.75 GHz~13.0 GHz at the time of
Around 1% of absorption factor
Blocking rate 90%~99% or more

The comment of the Dr. Varadan: this material is an ideal material as an electromagnetic wave
blocking material.
It is when send to a market and use to many electrical
machinery and apparatus including a mobile phone now.

SMALL ENTITY DECLARATION

FR17672-POST

APPLICANT OR PATENTEE FREESIA CO., LTD.

PCT/JP98/00519

SERIAL NO. _____ PATENT NO. _____ ATTORNEY DOCKET NO. _____

1. ☒ FILED OR ISSUED February 9, 1998

2. ☐ SUBMITTED HERewith

FOR ELECTROMAGNETIC WAVES SHIELD MATERIAL AND ELECTROMAGNETIC WAVES SHIELD MOBILE PHONE CASE

I (we) hereby declare that I (we) am (are) entitled to the benefit of small entity status with respect to the above-identified application or patent for purposes of paying reduced fees under 35 USC 41(a) & (b) to the U.S. Patent and Trademark Office.

☐ A. INDEPENDENT INVENTOR

I (we) qualify as (an) independent inventor(s) as defined in 37 CFR 1.9(c).

☐ B. INDIVIDUAL NON-INVENTOR

I would qualify as an independent inventor as defined in 37 CFR 1.9(c) if I had made the invention.

☒ C. SMALL BUSINESS CONCERN

I am ☒ THE OWNER ☐ AN OFFICIAL of the small business concern identified below and am empowered to act on behalf of the concern. The concern qualifies under 37 CFR 1.9(d) and 13 CFR 121.3-18. Rights under contract or law have been conveyed to and remain with the concern and are exclusive unless a checkmark is placed here ☐. All other rights belong to small entities as defined in 37 CFR 1.9.

☐ D. NON-PROFIT ORGANIZATION

I am an official empowered to act on behalf of the non-profit organization identified below. The organization qualifies under 37 CFR 1.9(e), sub-section *. Rights under contract or law have been conveyed to and remain with the organization and are exclusive unless a checkmark is placed here ☐. All other rights belong to small entities as defined in 37 CFR 1.9.

I (we) acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b)).

I (we) declare under penalty or perjury under the laws of the United States of America that the foregoing is true and correct.

A. INDEPENDENT INVENTOR(S) B. INDIVIDUAL NON-INVENTOR(S)

Name

Signature

Date

C. BUSINESS CONCERN D. NON-PROFIT ORGANIZATION

FREESIA CO., LTD.

Name of Concern or Organization

18-1, Ibukino 1-Chome, Izumi-Shi, OSAKA 594-0041 JAPAN

Address

By Hideki MATSUI

Name of Person Signing

President

Title

Signature

Date

[Handwritten Signature]

2000. 7. 25

Declaration For U.S. Patent Application

FR19672-PCT

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

(Insert Title) ELECTROMAGNETIC WAVES SHIELD MATERIAL AND ELECTROMAGNETIC WAVES SHIELD MOBILE PHONE CASE ✓

the specification of which is attached hereto unless the following is checked:

was filed on February 9, 1998 ✓ as United States Application Number or PCT International Application Number PCT/JP98/00519 ✓ and was amended on _____ (if applicable).

XX

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 (a) - (d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

(List prior foreign applications. See note A on back of this page)

9-043052 ✓
(Number)

(Number)

(Number)

(Number)

Japan ✓
(Country)

(Country)

(Country)

(Country)

11/02/97 ✓
(Day/Month/Year Filed)

(Day/Month/Year Filed)

(Day/Month/Year Filed)

(Day/Month/Year Filed)

Priority Claimed
☒ Yes ☐ No

☐ Yes ☐ No

☐ Yes ☐ No

☐ Yes ☐ No

(See note B on back of this page)

☐ See attached list for additional prior foreign applications

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

(Application Number)

(Filing Date)

(Application Number)

(Filing Date)

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of the application:

(List Prior U.S. Applications)

(Application Serial Number)

(Filing Date)

(Status) (patented, pending, abandoned)

(Application Serial Number)

(Filing Date)

(Status) (patented, pending, abandoned)

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

James E. Armstrong, III, Reg. No. 18,366; William F. Westerman, Reg. No. 29,988; Ken-Ichi Hattori, Reg. No. 32,861; Le-Nhung McLeland, Reg. No. 31,541; Ronald F. Naughton, Reg. No. 24,616; John R. Pegan, Reg. No. 18,069; William G. Kratz, Jr., Reg. No. 22,631; Albert Tockman, Reg. No. 19,722; Mel R. Quintos, Reg. No. 31,898; Donald W. Hanson, Reg. No. 27,133; Stephen G. Adrian, Reg. No. 32,878; William L. Brooks, Reg. No. 34,129; John F. Carney, Reg. No. 20,276; Edward F. Welsh, Reg. No. 22,455; Patrick D. Muir, Reg. No. 37,403; Gay A. Spahn, Reg. No. 34,978; and John P. Kong, Reg. No. 40,054.

17

Please direct all communications to the following address:

ARMSTRONG, WESTERMAN, HATTORI,

McLELAND & NAUGHTON

1725 K Street, N.W., Suite 1000

Washington, D.C. 20006

Telephone: (202) 659-2930 Fax: (202) 887-0357

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18 of the United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

1-00
(See note C above)
Full name of sole or first inventor (given name, family name) Hideki MATSUI
Inventor's Signature [Signature] Date 2000.7.25
Residence Same as post office address Citizenship Japan
Post Office Address C/O FREESIA CO., LTD., 18-1, Ibukino 1-Chome,
Izumi-Shi, OSAKA 594-0041 JAPAN JPX

Full name of second inventor (given name, family name) _____
Inventor's Signature _____ Date _____
Residence _____ Citizenship _____
Post Office Address _____

Full name of third inventor (given name, family name) _____
Inventor's Signature _____ Date _____
Residence _____ Citizenship _____
Post Office Address _____

Full name of fourth inventor (given name, family name) _____
Inventor's Signature _____ Date _____
Residence _____ Citizenship _____
Post Office Address _____

Full name of fifth inventor (given name, family name) _____
Inventor's Signature _____ Date _____
Residence _____ Citizenship _____
Post Office Address _____

Full name of sixth inventor (given name, family name) _____
Inventor's Signature _____ Date _____
Residence _____ Citizenship _____
Post Office Address _____

Full name of seventh inventor (given name, family name) _____
Inventor's Signature _____ Date _____
Residence _____ Citizenship _____
Post Office Address _____

Full name of eighth inventor (given name, family name) _____
Inventor's Signature _____ Date _____
Residence _____ Citizenship _____
Post Office Address _____